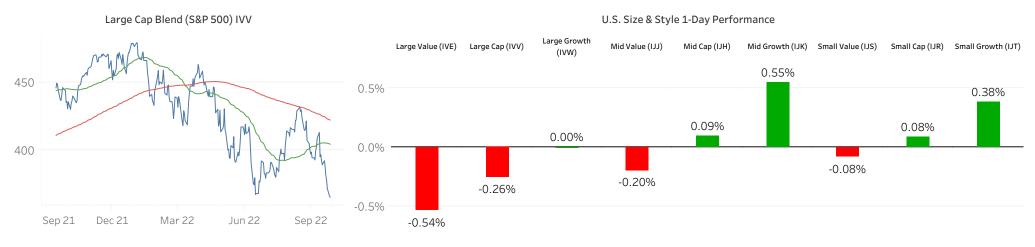


U.S. Size & Style Performance



280 Mid Cap Blend (S&P 400) IJH

280 260 240 220 Sep 21 Dec 21 Mar 22 Jun 22 Sep 22

Size & Style 1-Day Performance Leaders

Ticker	Fund	
QVAL	Alpha Architect U.S. Quantitative Value ETF	2.51%
QMOM	Alpha Architect U.S. Quantitative Momentum ETF	1.80%
IPO	Renaissance IPO ETF	1.52%
DWAS	Invesco DWA SmallCap Momentum ETF	1.41%
BUZZ	VanEck Social Sentiment ETF	1.23%
CALF	Pacer US Small Cap Cash Cows 100 ETF	1.19%
RFG	Invesco S&P Midcap 400 Pure Growth ETF	1.15%
FCTR	First Trust Lunt U.S. Factor Rotation ETF	1.12%
FFTY	Innovator IBD 50 ETF	1.09%
AIEQ	AI Powered Equity ETF	1.07%

Size & Style Most Overbought

Ticker	Fund	
PTLC	Pacer Trendpilot US Large Cap ETF	69.13
SPC	CrossingBridge Pre-Merger SPAC ETF	54.14
LSAT	Leadershares Alphafactor Tactical Focused ETF	50.99
ONOF	Global X Adaptive U.S. Risk Management ETF	43.35
IPO	Renaissance IPO ETF	34.46
RPHS	Regents Park Hedged Market Strategy ETF	33.73
BUZZ	VanEck Social Sentiment ETF	32.89
QMOM	Alpha Architect U.S. Quantitative Momentum ETF	32.27
PTNQ	Pacer Trendpilot 100 ETF	31.60
WINN	Harbor Long-Term Growers ETF	31.41

Small Cap Blend (S&P 600) IJR



50 Day Moving Average

Closing Price

Size & Style 1-Day Performance Laggards

Ticker	Fund	
GUSA	Goldman Sachs MarketBeta U.S. 1000 Equity ETF	-9.85%
ACSI	American Customer Satisfaction ETF	-6.87%
PABU	iShares Paris-Aligned Climate MSCI USA ETF	-5.67%
QVMS	Invesco S&P SmallCap 600 QVM Multi-factor ETF	-3.60%
OALC	OneAscent Large Cap Core ETF	-1.90%
XSLV	Invesco S&P SmallCap Low Volatility ETF	-1.56%
LVHD	Franklin U.S. Low Volatility High Dividend Index ETF	-1.35%
SIXL	ETC 6 Meridian Low Beta Equity ETF	-1.28%
SPLV	Invesco S&P 500 Low Volatility ETF	-1.25%
PEY	Invesco High Yield Equity Dividend Achievers ETF	-1.25%

Size & Style Most Oversold

Ticker	Fund	
GUSA	Goldman Sachs MarketBeta U.S. 1000 Equity ETF	7.17
QVMS	Invesco S&P SmallCap 600 QVM Multi-factor ETF	7.23
USNZ	Xtrackers Net Zero Pathway Paris Aligned US Equity	12.27
QVML	Invesco S&P 500 QVM Multi-factor ETF	19.40
DIV	Global X SuperDividend US ETF	20.16
DJD	Invesco Dow Jones Industrial Average Dividend ETF	20.29
CDC	VictoryShares US EQ Income Enhanced Volatility Wt	20.58
DEIF	Sterling Capital Diverse Multi-Manager Active ETF	20.67
XSLV	Invesco S&P SmallCap Low Volatility ETF	20.70
SPHD	Invesco S&P 500 High Dividend Low Volatility ETF	20.92

200 Day Moving Average

^{*}ETF Landscape represented using the ETF Action classification system**Leaders/Laggards/Overbought/Oversold ETFs must have \$50 million to qualify



Large-Cap 30-Day Rolling Flows



U.S. Size & Style Landscape Flows

	Funds	AUM	1 Week	3 Month	6 Month	1 Year
Large Cap, Beta Growth, Beta	25	\$1,116B	\$0.17B	\$17.33B	\$24.54B	\$109.90B
Large Cap, Beta Growth, Beta: Growth	10	\$207B	(\$0.20B)	\$4.80B	\$10.25B	\$14.31B
Large Cap, Beta Growth, Beta: Value	11	\$197B	\$0.27B	\$0.30B	\$4.72B	\$25.22B
Mid Cap, Beta, Beta	10	\$159B	\$0.04B	\$2.30B	\$4.66B	\$13.12B
Mid Cap, Beta, Beta: Growth	6	\$29B	(\$0.02B)	\$0.76B	\$0.94B	\$1.26B
Mid Cap, Beta, Beta: Value	6	\$36B	(\$0.01B)	\$0.35B	(\$0.19B)	\$1.47B
Small Cap, Beta, Beta	13	\$171B	\$0.69B	\$0.92B	(\$3.44B)	\$4.61B
Small Cap, Beta, Beta: Growth	7	\$28B	(\$0.10B)	(\$0.28B)	\$0.20B	\$1.04B
Small Cap, Beta, Beta: Value	7	\$44B	(\$0.03B)	(\$1.98B)	(\$2.94B)	(\$2.69B)

Mid-Cap 30-Day Rolling Flows



U.S. Size & Style Flow Leaders

Ticker	Fund	1 Week	3 Month	6 Month	1 Year	AUM
SPY	SPDR S&P 500 ETF Trust	\$2.69B	(\$1.18B)	\$0.26B	\$5.50B	\$333.21B
ITOT	iShares Core S&P Total U.S. Stock Market ETF	\$1.93B	\$0.87B	\$3.65B	\$5.91B	\$39.29B
voo	Vanguard S&P 500 ETF	\$0.92B	\$11.03B	\$12.22B	\$43.47B	\$247.14B
SCHB	Schwab U.S. Broad Market ETF	\$0.55B	\$0.60B	\$0.95B	\$1.70B	\$19.16B
VTI	Vanguard Total Stock Market ETF	\$0.47B	\$6.34B	\$10.11B	\$32.14B	\$241.37B
SCHA	Schwab U.S. Small-Cap ETF	\$0.45B	\$0.17B	(\$0.47B)	\$0.42B	\$12.55B
IWM	iShares Russell 2000 ETF	\$0.41B	(\$1.74B)	(\$2.69B)	(\$4.88B)	\$47.84B
SCHD	Schwab US Dividend Equity ETF	\$0.38B	\$3.63B	\$7.05B	\$12.03B	\$35.51B
VYM	Vanguard High Dividend Yield Index ETF	\$0.27B	\$1.90B	\$5.12B	\$9.16B	\$43.23B
VTV	Vanguard Value ETF	\$0.14B	\$2.16B	\$5.33B	\$17.61B	\$91.40B

Small-Cap 30-Day Rolling Flows

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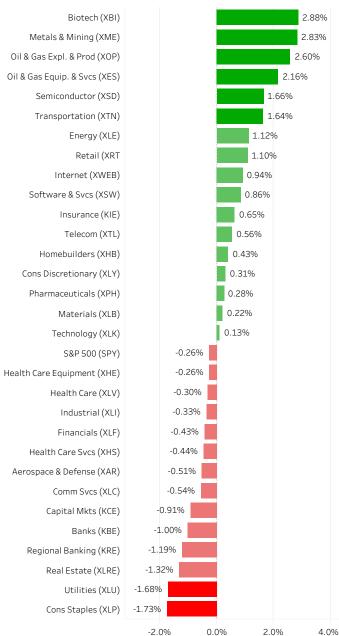
U.S. Size & Style Flow Laggards

Ticker	Fund	1 Week	3 Month	6 Month	1 Year	AUM
QQQ	Invesco QQQ Trust	(\$3.35B)	(\$0.66B)	\$1.91B	\$12.30B	\$148.73B
IVV	iShares Core S&P 500 ETF	(\$0.26B)	\$4.61B	\$4.39B	\$35.06B	\$272.46B
RSP	Invesco S&P 500 Equal Weight ETF	(\$0.24B)	\$0.04B	\$0.17B	\$4.26B	\$27.82B
IJR	iShares Core S&P Small Cap ETF	(\$0.21B)	\$2.61B	\$0.55B	\$5.53B	\$59.92B
USMV	iShares MSCI USA Min Vol Factor ETF	(\$0.18B)	\$2.13B	\$2.43B	\$1.99B	\$26.57B
VUG	Vanguard Growth ETF	(\$0.14B)	\$2.29B	\$5.07B	\$7.33B	\$67.75B
DIA	SPDR Dow Jones Industrial Average ETF Trust	(\$0.11B)	(\$0.03B)	(\$0.36B)	\$0.98B	\$25.48B
IWO	iShares Russell 2000 Growth ETF	(\$0.09B)	(\$0.44B)	(\$0.39B)	\$0.40B	\$8.43B
IJS	iShares S&P Small-Cap 600 Value ETF	(\$0.09B)	(\$1.97B)	(\$1.03B)	(\$1.25B)	\$6.16B
MDY	SPDR S&P Midcap 400 ETF Trust	(\$0.08B)	(\$0.27B)	(\$0.56B)	(\$0.80B)	\$16.16B

^{*} ETF Landscape represented using the ETF Action classification system**Leaders/Laggards/Overbought/Oversold ETFs must have \$50 million to qualify ***Flows delayed one day



S&P Sector & Industry 1 Day Performance



Ticker	Fund Name	% From 52W High	% From 52W Low	% Abv/Below 50 SMA	% Abv/Below 200 SMA	RSI (14D)
XLU	Utilities Select Sector SPDR Fund	-11.87%	7.76%	-7.56%	-3.96%	26.40
XLV	Health Care Select Sector SPDR Fund	-15.15%	1.08%	-6.06%	-7.64%	32.52
XLP	Consumer Staples Select Sector SPDR Fund	-15.32%	0.00%	-7.42%	-8.67%	23.38
XLI	Industrial Select Sector SPDR Fund	-21.98%	0.00%	-10.81%	-13.32%	23.27
SPY	SPDR S&P 500 ETF Trust	-23.93%	0.00%	-9.66%	-13.49%	26.71
XLE	Energy Select Sector SPDR Fund	-24.66%	31.15%	-10.04%	-6.45%	30.91
XLB	Materials Select Sector SPDR Fund	-25.54%	0.22%	-11.40%	-17.58%	26.39
XLF	Financial Select Sector SPDR Fund	-26.53%	0.00%	-9.17%	-14.88%	26.46
XLK	Technology Select Sector SPDR Fund	-30.35%	0.13%	-11.27%	-15.52%	27.95
XLRE	Real Estate Select Sector SPDR Fund	-30.57%	0.00%	-15.17%	-19.70%	18.45
XLY	Consumer Discretionary Select Sector SPDR Fund	-30.68%	8.85%	-8.45%	-12.44%	33.52
XLC	Communication Services Select Sector SPDR Fund	-41.49%	0.00%	-13.00%	-23.34%	24.04

Select Sector SPDRs Technicals

Sector & Industry 1 Day Performance Leaders

Sector & Industry Most Overbought

Ticker	Fund		Ticker	Fund	
XBI	SPDR S&P BIOTECH ETF	2.88%	XBI	SPDR S&P BIOTECH ETF	38.00
PSCE	Invesco S&P SmallCap Energy ETF	2.87%	XSD	SPDR S&P Semiconductor ETF	36.11
XME	SPDR S&P Metals & Mining ETF	2.83%	PJP	Invesco Dynamic Pharmaceuticals ETF	35.74
XOP	SPDR S&P Oil & Gas Exploration & Production ETF	2.60%	QABA	First Trust NASDAQ ABA Community Bank Index Fund	35.04
PXI	Invesco DWA Energy Momentum ETF	2.49%	PBE	Invesco Dynamic Biotechnology & Genome ETF	34.88
PXE	Invesco Dynamic Energy Exploration & Production	2.17%	KBWR	Invesco KBW Regional Banking ETF	34.73
XES	SPDR S&P Oil & Gas Equipment & Services ETF	2.16%	IBB	iShares Biotechnology ETF	34.40
FTXN	First Trust Nasdaq Oil & Gas ETF	2.10%	XPH	SPDR S&P Pharmaceuticals ETF	33.90
MLPA	Global X MLP ETF	1.73%	XME	SPDR S&P Metals & Mining ETF	33.84
XSD	SPDR S&P Semiconductor ETF	1.66%	VCR	Vanguard Consumer Discretionary ETF	33.58

Sector & Industry 1 Day Performance Laggards

Sector & Industry Most Oversold

Ticker	Fund		Ticker	Fund	
REM	iShares Mortgage Real Estate ETF	-2.51%	REM	iShares Mortgage Real Estate ETF	14.23
INDS	Pacer Benchmark Industrial Real Estate SCTR ETF	-2.20%	KBWD	Invesco KBW High Dividend Yield Financial ETF	14.82
MORT	VanEck Mortgage REIT Income ETF	-1.94%	MORT	VanEck Mortgage REIT Income ETF	16.19
VPU	Vanguard Utilities ETF	-1.85%	KBWY	Invesco KBW Premium Yield Equity REIT ETF	17.13
FXU	First Trust Utilities AlphaDEX Fund	-1.85%	INDS	Pacer Benchmark Industrial Real Estate SCTR ETF	17.28
RYU	Invesco S&P 500 Equal Weight Utilities ETF	-1.84%	REZ	iShares Residential and Multisector Real Estate ETF	17.47
FUTY	Fidelity MSCI Utilities Index ETF	-1.82%	USRT	iShares Core U.S. REIT ETF	17.57
KBWR	Invesco KBW Regional Banking ETF	-1.79%	IYZ	iShares U.S. Telecommunications ETF	17.67
VDC	Vanguard Consumer Staples ETF	-1.78%	RWR	SPDR Dow Jones REIT ETF	17.67
KBWY	Invesco KBW Premium Yield Equity REIT ETF	-1.78%	VNQ	Vanguard Real Estate ETF	17.82

^{*} ETF Landscape represented using the ETF Action classification system **Leaders/Laggards/Overbought/Oversold ETFs must have \$50 million to qualify



U.S. Sector & Industry 1-Week Flows

Software \$248M \$93M Homebuilding \$43M MLPs: C-Corp \$18M Oil & Gas Equipment & Services \$10M Insurance \$8M Transportation \$6M Semiconductors \$5M Midstream \$3M Banks Health Care Providers & Services \$1M \$0M Food & Beverage \$0M Construction & Engineering \$0M Pharmaceuticals \$0M MLPs: Note (\$1M) Media & Entertainment (\$2M) Aerospace & Defense (\$7M) Retail Health Care Equipment & Supplies (\$7M) (\$11M) BDCs Mortgage REITs (\$18M) (\$21M) Natural Gas (\$47M) Infrastructure (\$66M) Metals & Mining (\$83M) Banks: Regional (\$103M) Oil & Gas Exploration & Production (\$173M) Leisure & Recreation (\$324M) Biotech

-400M

-200M

1 Week (Custom SQL Query22)

200M

400M

U.S. Sector Landscape

	Funds	AUM	1 Week	3 Month	6 Month	1 Year
Communication Services		\$11B	(\$277M)	(\$477M)	(\$925M)	(\$2,258M)
Consumer Discretionary	13	\$22B	(\$133M)	(\$535M)	(\$2,698M)	(\$4,691M)
Consumer Staples	11	\$27B	(\$156M)	\$1,113M	\$3,674M	\$7,245M
Energy	34	\$65B	\$101M	(\$2,783M)	(\$5,387M)	\$722M
Financials	27	\$53B	(\$273M)	(\$1,297M)	(\$16,207M)	(\$9,717M)
Health Care	24	\$84B	(\$195M)	\$990M	\$4,509M	\$11,044M
Industrial	14	\$25B	(\$206M)	(\$981M)	(\$3,439M)	(\$3,884M)
Materials	10	\$12B	(\$187M)	(\$2,789M)	(\$2,973M)	(\$1,502M)
Multi-Sector	19	\$12B	(\$233M)	(\$1,586M)	(\$2,884M)	(\$4,808M)
Real Estate	25	\$58B	(\$165M)	(\$1,067M)	(\$2,656M)	(\$1,144M)
Technology	24	\$100B	(\$639M)	(\$1,772M)	(\$404M)	\$455M
Utilities	10	\$27B	(\$186M)	\$2,008M	\$4,544M	\$5,809M

U.S. Sector & Industry Flow Leaders

Ticker	Fund	1 Week	3 Month	6 Month	1 Year	AUM
IGV	iShares Expanded Tech-Software Sector ETF	\$250M	(\$564M)	\$68M	\$706M	\$3,947M
XLV	Health Care Select Sector SPDR Fund	\$239M	\$1,211M	\$3,937M	\$7,964M	\$36,640M
XLE	Energy Select Sector SPDR Fund	\$206M	(\$1,085M)	(\$2,022M)	(\$1,260M)	\$31,801M
IYR	iShares U.S. Real Estate ETF	\$146M	(\$101M)	(\$481M)	(\$2,622M)	\$3,821M
IYZ	iShares U.S. Telecommunications ETF	\$109M	\$131M	\$76M	\$178M	\$440M
ITB	iShares U.S. Home Construction ETF	\$105M	(\$103M)	(\$448M)	(\$677M)	\$1,169M
AMLP	Alerian MLP ETF	\$41M	(\$11M)	(\$31M)	\$630M	\$5,814M
USRT	iShares Core U.S. REIT ETF	\$35M	(\$26M)	(\$88M)	(\$104M)	\$1,863M
XES	SPDR S&P Oil & Gas Equipment & Services ETF	\$21M	(\$11M)	(\$21M)	\$92M	\$206M
IYG	iShares US Financial Services ETF	\$14M	(\$41M)	(\$573M)	(\$671M)	\$1,310M

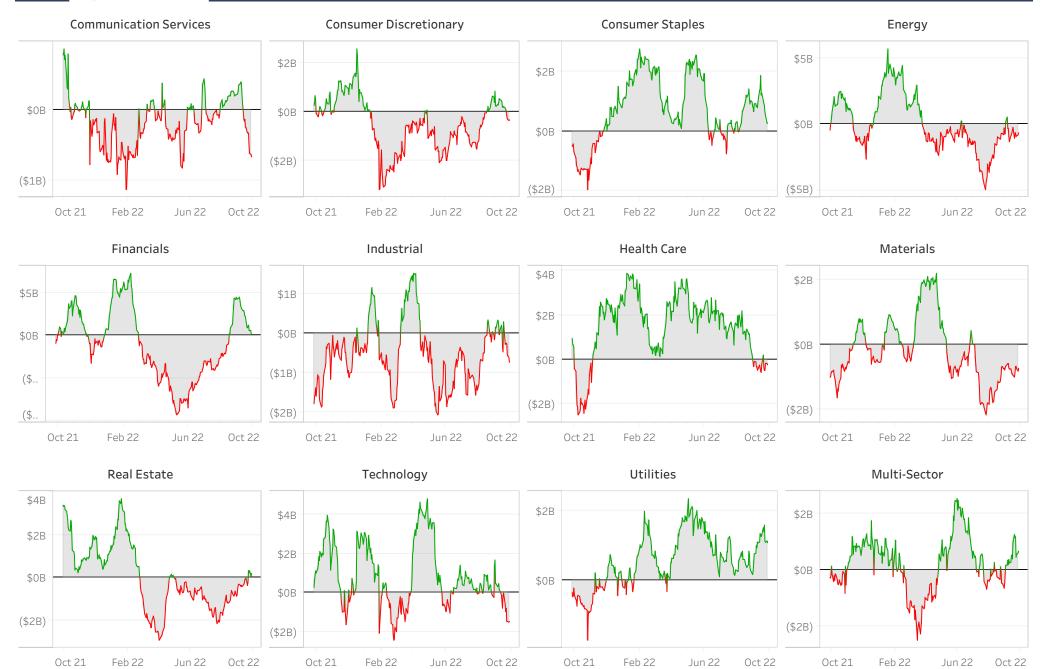
U.S. Sector & Industry Flow Laggards

Ticker	Fund	1 Week	3 Month	6 Month	1 Year	AUM
VGT	Vanguard Information Technology ETF	(\$430M)	(\$616M)	\$801M	\$849M	\$38,624M
XLK	Technology Select Sector SPDR Fund	(\$404M)	\$188M	\$898M	\$2,160M	\$36,717M
XLC	Communication Services Select Sector SPDR Fu	(\$264M)	(\$606M)	(\$749M)	(\$1,899M)	\$7,698M
VNQ	Vanguard Real Estate ETF	(\$233M)	(\$728M)	(\$2,060M)	\$156M	\$33,419M
XLI	Industrial Select Sector SPDR Fund	(\$199M)	(\$764M)	(\$1,783M)	(\$3,768M)	\$11,539M
XBI	SPDR S&P BIOTECH ETF	(\$178M)	(\$675M)	\$190M	\$2,518M	\$6,409M
PEJ	Invesco Dynamic Leisure & Entertainment ETF	(\$173M)	(\$461M)	(\$443M)	(\$352M)	\$588M
XLU	Utilities Select Sector SPDR Fund	(\$166M)	\$1,301M	\$3,097M	\$3,669M	\$16,719M
IBB	iShares Biotechnology ETF	(\$147M)	(\$184M)	(\$428M)	(\$162M)	\$7,293M
XLF	Financial Select Sector SPDR Fund	(\$142M)	(\$664M)	(\$10,311M)	(\$5,455M)	\$27,690M

^{*}ETF Landscape represented using the ETF Action classification system**Leaders/Laggards/Overbought/Oversold ETFs must have \$50 million to qualify ***Flows delayed one day

U.S. Sector Rolling 30-Day Flows



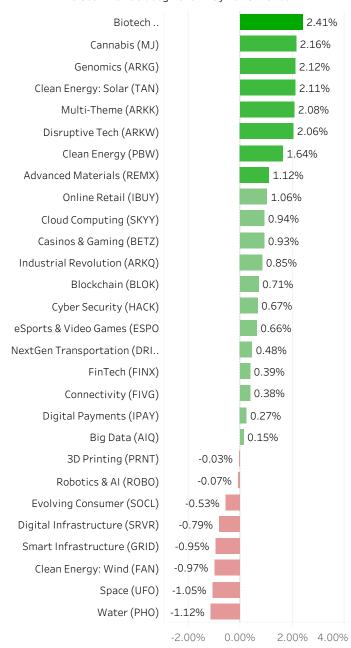


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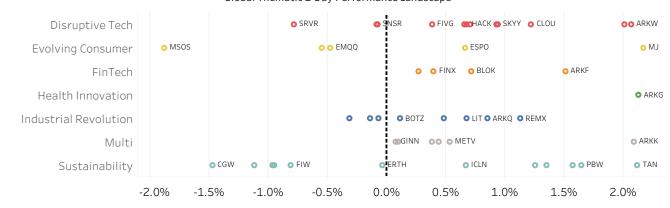
Global Thematic Performance



Global Thematic Segment 1-Day Performance



Global Thematic 1-Day Performance Landscape



Global Thematic 1-Day Performance Leaders

Thematic Most Overbought

Ticker	Fund		Ticker	Fund	
SBIO	ALPS Medical Breakthroughs ETF	2.41%	ВЈК	VanEck Gaming ETF	38.92
IDNA	i Shares Genomics Immunology and Healthcare ETF Geno	2.29%	QCLN	First Trust Nasdaq Clean Edge Green Energy Index Fund	37.41
MJ	ETFMG Alternative Harvest ETF	2.16%	SBIO	ALPS Medical Breakthroughs ETF	37.37
ARKG	ARK Genomic Revolution ETF	2.12%	ВКСН	Global X Blockchain ETF	37.03
TAN	Invesco Solar ETF	2.11%	ARKG	ARK Genomic Revolution ETF	36.97
BITQ	Bitwise Crypto Industry Innovators ETF	2.09%	ARKK	ARK Innovation ETF	36.88
ARKK	ARK Innovation ETF	2.08%	CLOU	Global X Cloud Computing ETF	36.68
GNOM	Global X Genomics & Biotechnology ETF	2.07%	ARKW	ARK Next Generation Internet ETF	35.97
ARKW	ARK Next Generation Internet ETF	2.06%	BTEC	Principal Healthcare Innovators ETF	35.89
WCLD	WisdomTree Cloud Computing Fund	2.00%	WCLD	WisdomTree Cloud Computing Fund	35.62

Global Thematic 1-Day Performance Laggards

Thematic Most Oversold

Ticker	Fund		Ticker	Fund	
BLCN	Siren ETF Trust Siren Nasdaq NexGen Economy ETF	-2.01%	YOLO	AdvisorShares Pure Cannabis ETF	18.22
MSOS	AdvisorShares Pure US Cannabis ETF	-1.88%	SRVR	Pacer Benchmark Data & Infrastructure Real Estate SCTR	18.56
YOLO	AdvisorShares Pure Cannabis ETF	-1.80%	FAN	First Trust Global Wind Energy ETF	19.10
VPN	Global X Data Center REITs & Digital Infrastructure ETF	-1.58%	VPN	Global X Data Center REITs & Digital Infrastructure ETF	19.36
CGW	Invesco S&P Global Water Index ETF	-1.47%	NXTG	First Trust Indxx NextG ETF	20.67
PIO	Invesco Global Water ETF	-1.34%	PAWZ	ProShares Pet Care ETF	21.39
EBLU	Ecofin Global Water ESG Fund	-1.34%	PIO	Invesco Global Water ETF	21.70
KGRN	KraneShares MSCI China Clean Technology Index ETF	-1.29%	GBUY	Goldman Sachs Future Consumer Equity ETF	21.96
PHO	Invesco Water Resources ETF	-1.12%	EBLU	Ecofin Global Water ESG Fund	22.15
LEGR	First Trust Indxx Innovative Transaction & Process ETF	-1.10%	CGW	Invesco S&P Global Water Index ETF	22.31

^{*}ETF Landscape represented using the ETF Action classification system**Leaders/Laggards/Overbought/Oversold ETFs must have \$50 million to qualify





Thematic 1 Week Flow Leaders

Ticker	Fund	
ARKK	ARK Innovation ETF	\$209M
SKYY	First Trust Cloud Computing ETF	\$21M
TARK	AXS 2X Innovation ETF	\$13M
EVX	VanEck Environmental Services ETF	\$4M
IDRV	iShares Self-driving EV & Tech ETF	\$4M
CNRG	SPDR S&P Kensho Clean Power ETF	\$4M
XITK	SPDR FactSet Innovative Technology ETF	\$3M
KOMP	SPDR S&P Kensho New Economies Composite ETF	\$2M
GXTG	Global X Thematic Growth ETF	\$1M
DITO	Ritwico Crypto Industry Innovators ETE	\$1M

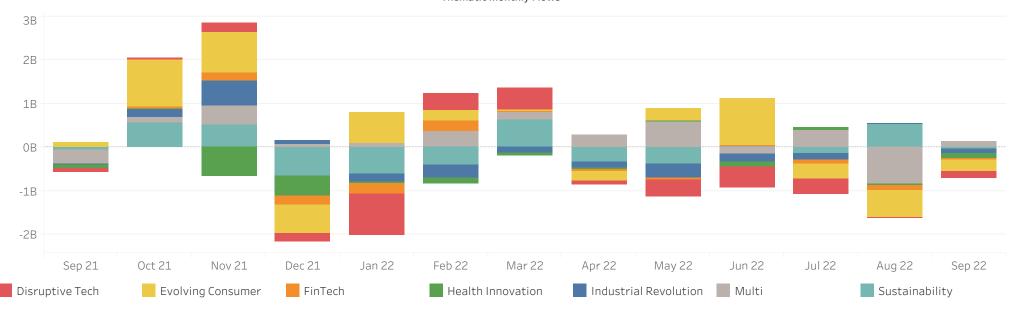
Thematic 1 Week Flow Laggards

Ticker	Fund	
KWEB	KraneShares CSI China Internet ETF	(\$142M)
TAN	Invesco Solar ETF	(\$87M)
PBW	Invesco WilderHill Clean Energy ETF	(\$51M)
ARKG	ARK Genomic Revolution ETF	(\$46M)
QCLN	First Trust Nasdaq Clean Edge Green Energy Index Fund	(\$24M)
ARKW	ARK Next Generation Internet ETF	(\$19M)
LIT	Global X Lithium & Battery Tech ETF	(\$17M)
ARKF	ARK Fintech Innovation ETF	(\$15M)
REMX	VanEck Rare Earth/Strategic Metals ETF	(\$13M)
CIBR	First Trust NASDAQ Cybersecurity ETF	(\$12M)

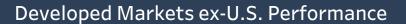
Thematic Landscape Assets & Flows

Segment	Funds	AUM	1 Week	3 Month	6 Month	1 Year
Disruptive Tech	35	\$16B	(\$6M)	(\$563M)	(\$1,409M)	(\$1,563M)
Evolving Consumer	47	\$9B	(\$139M)	(\$1,138M)	(\$75M)	\$2,376M
FinTech	24	\$3B	(\$21M)	(\$224M)	(\$303M)	(\$308M)
Health Innovation	19	\$3B	(\$42M)	(\$119M)	(\$208M)	(\$1,637M)
Industrial Revolution	32	\$11B	(\$34M)	(\$253M)	(\$892M)	(\$712M)
Multi	41	\$13B	\$6M	(\$511M)	\$496M	\$1,398M
Sustainability	41	\$18B	(\$114M)	\$330M	(\$370M)	(\$368M)
Grand Total	239	\$73B	(\$350M)	(\$2,479M)	(\$2,762M)	(\$814M)

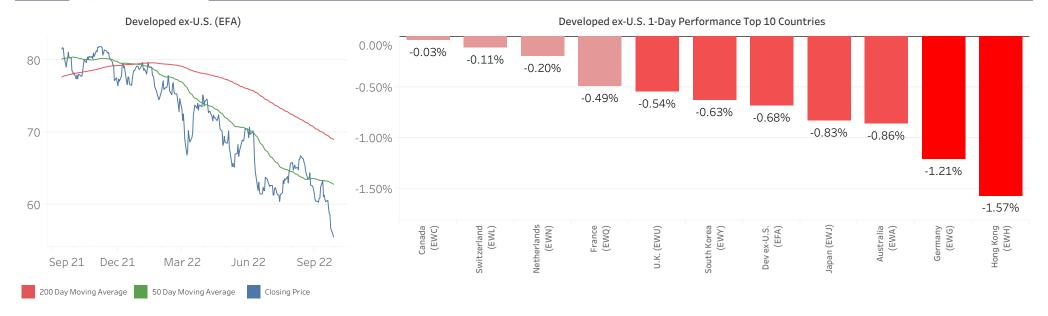
Thematic Monthly Flows



^{*}ETF Landscape represented using the ETF Action classification system**Leaders/Laggards/Overbought/Oversold ETFs must have \$50 million to qualify ***Flows delayed one day







Developed ex-U.S. 30-Day Rolling Flows

0B Oct 21 Jan 22 Apr 22 Jul 22 Oct 22

Developed ex-U.S. 1-Day Performance Leaders

Ticker	Fund	
NORW	Global X MSCI Norway ETF	1.31%
IVAL	Alpha Architect International Quantitative Value ETF	0.55%
CIL	VictoryShares International Volatility Wtd ETF	0.43%
IHDG	$Wisdom Tree\ International\ Hedged\ Quality\ Dividend\ Growth\$	0.39%
IDHQ	Invesco S&P International Developed High Quality ETF	0.25%
GREK	Global X MSCI Greece ETF	0.24%
ICOW	Pacer Developed Markets International Cash Cows 100 ETF	0.17%
ISDX	Invesco RAFI Strategic Developed ex-US ETF	0.13%
IQDG	WisdomTree International Quality Dividend Growth Fund	0.07%
ISRA	VanEck Israel ETF	0.05%

Developed ex-U.S. Most Overbought

Ticker	Fund	
PTIN	Pacer Trendpilot International ETF	47.38
DFJ	WisdomTree Japan SmallCap Dividend Fund	31.16
SCJ	iShares MSCI Japan Small-Cap ETF	30.64
EWI	iShares MSCI Italy ETF	30.16
EWJV	iShares MSCI Japan Value ETF	29.75
HEWJ	iShares Currency Hedged MSCI Japan ETF	29.70
CIL	VictoryShares International Volatility Wtd ETF	29.67
DXJ	WisdomTree Japan Hedged Equity Fund	28.96
HEDJ	WisdomTree Europe Hedged Equity Fund	28.89
DBJP	Xtrackers MSCI Japan Hedged Equity ETF	28.73

Developed ex-U.S. Monthly Flows



Developed ex-U.S. 1-Day Performance Laggards

Ticker	Fund	
EWP	iShares MSCI Spain ETF	-1.64%
EWH	iShares MSCI Hong Kong ETF	-1.57%
FDD	First Trust Stoxx European Select Dividend Index Fund	-1.49%
ENZL	iShares MSCI New Zealand ETF	-1.44%
IEUS	iShares MSCI Europe Small-Cap ETF	-1.38%
DFE	WisdomTree Europe SmallCap Dividend Fund	-1.31%
EWI	iShares MSCI Italy ETF	-1.29%
EWG	iShares MSCI Germany ETF	-1.21%
PBDM	Invesco PureBeta FTSE Developed ex-North America ETF	-1.18%
ISVL	iShares International Developed Small Cap Value Factor E	-1.17%

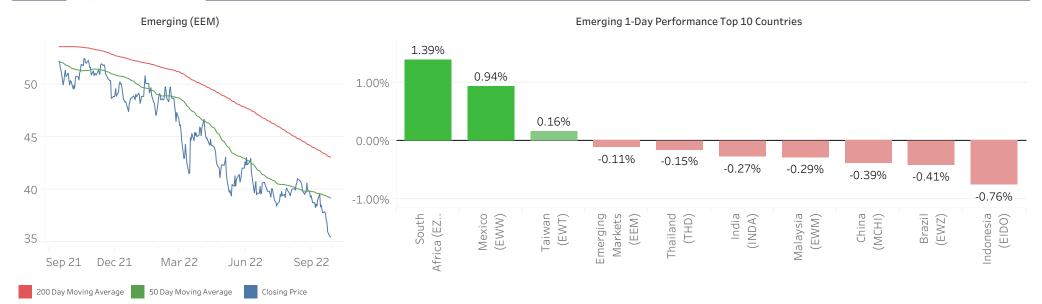
Developed ex-U.S. Most Oversold

Ticker	Fund	
IMFL	Invesco International Developed Dynamic Multifact	15.20
QLVD	FlexShares Developed Markets ex-US Quality Low V	16.39
IDLV	Invesco S&P International Developed Low Volatility	17.36
AIVI	WisdomTree International AI Enhanced Value Fund	17.40
IDOG	ALPS International Sector Dividend Dogs ETF	17.75
IDV	iShares International Select Dividend ETF	18.23
DIM	WisdomTree International MidCap Dividend Fund	18.54
JPIN	J.P. Morgan Diversified Return International Equity	18.74
RODM	Hartford Multifactor Developed Markets (ex-US) ETF	18.80
DFE	WisdomTree Europe SmallCap Dividend Fund	18.88

^{*}ETF Landscape represented using the ETF Action classification system**Leaders/Laggards/Overbought/Oversold ETFs must have \$50 million to qualify ***Flows delayed one day

Emerging Markets Performance





Emerging 30-Day Rolling Flows

0B Oct 21 Jan 22 Apr 22 Jul 22 Oct 22

Emerging 1-Day Performance Leaders

Ticker	Fund	
KSA	iShares MSCI Saudi Arabia ETF	1.63%
EZA	iShares MSCI South Africa ETF	1.39%
ASHR	Xtrackers Harvest CSI 300 China A-Shares ETF	1.32%
ECH	iShares MSCI Chile ETF	1.27%
CNYA	iShares MSCI China A ETF	1.04%
EWW	iShares MSCI Mexico ETF	0.94%
KBA	KraneShares Bosera MSCI China A 50 Connect Index ETF	0.82%
RAYC	Rayliant Quantamental China Equity ETF	0.63%
EWX	SPDR S&P Emerging Markets Small Cap ETF	0.56%
FPOL	iShares MSCI Poland ETF	0.54%

Emerging Most Overbought

Ticker	Fund	
TUR	iShares MSCI Turkey ETF	48.75
EIDO	iShares MSCI Indonesia ETF	41.63
EWZ	iShares MSCI Brazil ETF	40.41
FLBR	Franklin FTSE Brazil ETF	40.13
EWZS	iShares MSCI Brazil Small-Cap ETF	38.79
EWW	iShares MSCI Mexico ETF	38.70
ILF	iShares Latin America 40 ETF	38.60
FLLA	Franklin FTSE Latin America ETF	37.57
PGJ	Invesco Golden Dragon China ETF	34.12
SMIN	iShares MSCI India Small Cap ETF	33.40

Emerging Monthly Flows



Emerging 1-Day Performance Laggards

Ticker	Fund	
EPHE	iShares MSCI Philippines ETF	-2.92%
EWZS	iShares MSCI Brazil Small-Cap ETF	-1.39%
PGJ	Invesco Golden Dragon China ETF	-1.07%
FXI	iShares China Large-Cap ETF	-0.90%
TUR	iShares MSCI Turkey ETF	-0.78%
EIDO	iShares MSCI Indonesia ETF	-0.76%
BKF	iShares MSCI BIC ETF	-0.74%
FLBR	Franklin FTSE Brazil ETF	-0.64%
LDEM	iShares ESG MSCI EM Leaders ETF	-0.58%
FLCH	Franklin FTSE China ETF	-0.52%

Emerging Most Oversold

Ticker	Fund	
EDIV	SPDR S&P Emerging Markets Dividend ETF	16.40
FM	iShares MSCI Frontier and Select EM ETF	16.93
EPHE	iShares MSCI Philippines ETF	18.56
EELV	Invesco S&P Emerging Markets Low Volatility ETF	18.82
EWM	iShares MSCI Malaysia ETF	19.76
DFEV	Dimensional Emerging Markets Value ETF	20.78
DEM	WisdomTree Emerging Markets High Dividend Fund	21.20
TLTE	FlexShares Morningstar Emerging Markets Factor Ti	21.43
DGS	WisdomTree Emerging Markets SmallCap Dividend F	21.52
DFEM	Dimensional Emerging Markets Core Equity 2 ETF	21.52

^{*}ETF Landscape represented using the ETF Action classification system**Leaders/Laggards/Overbought/Oversold ETFs must have \$50 million to qualify ***Flows delayed one day



Fixed Income, Commodities & Currencies



Eivod	Incomo	Performance
FIXEG	111001110	Periormance

Ticker	Name	1 Day	1 Month	YTD
AGG	U.S. Aggregate	-0.43%	-5.78%	-15.09%
SHY	1-3 Year Treasury Bonds	0.00%	-1.53%	-4.73%
IEF	7-10 Year Treasury Bonds	-0.68%	-7.10%	-16.90%
TLT	20+ Year Treasury Bonds	-2.63%	-10.96%	-30.94%
TIP	TIPS Bonds	-0.53%	-7.76%	-13.60%
FLOT	Floating Rate Bonds	-0.06%	0.41%	-0.02%
LQD	Investment Grade Corporate	-1.50%	-8.45%	-22.02%
HYG	High Yield Corporate	-0.21%	-5.71%	-15.56%
BKLN	Senior Loan	-0.20%	-2.69%	-5.34%
PFF	Preferred & Income Securities	0.35%	-5.99%	-17.54%
MUB	Municipal Bonds	0.04%	-3.18%	-10.63%
МВВ	MBS	0.57%	-6.46%	-14.18%
ЕМВ	Dollar Denominated EM Bonds	-1.60%	-8.71%	-25.59%
LEMB	Local Currency EM Bond	-0.42%	-5.24%	-17.76%

Commodities Performance

Ticker	Name	1 Day	1 Month	YTD
DJP	Broad Commodities	0.03%	-12.61%	13.45%
DBE	Energy	1.72%	-14.23%	31.62%
USO	WTI Crude Oil	1.93%	-15.07%	18.51%
BNO	Brent Crude Oil	2.49%	-12.79%	29.79%
UNG	Natural Gas	-3.30%	-26.82%	87.43%
UGA	Gasoline	3.35%	-9.32%	28.71%
DBP	Precious Metals	0.10%	-5.82%	-14.45%
GLD	Gold	0.20%	-6.32%	-11.36%
SLV	Silver	-0.12%	-2.65%	-21.43%
PPLT	Global X Physical Pla	-0.52%	-1.76%	-12.44%
PALL	abrdn Physical Palla	1.96%	-1.70%	9.28%
DBB	Base Metals	-1.13%	-13.69%	-21.25%
CPER	Copper	-0.15%	-10.82%	-27.27%
LD	Lead	-6.48%	-18.18%	-26.15%
JJN	Nickel	-1.54%	0.17%	5.11%
JJU	Aluminum	-1.25%	-15.34%	-25.00%
JJT	Tin	1.39%	-15.15%	-44.92%
DBA	Agriculture	0.20%	-3.81%	1.11%
CORN	Corn	0.11%	-0.49%	23.68%
SOYB	Soybeans	-0.15%	-3.38%	16.88%
WEAT	Wheat	1.39%	4.43%	18.13%
CANE	Sugar	0.12%	-3.98%	-5.54%
BAL	Cotton	0.15%	-24.97%	-4.76%
NIB	Cocoa	3.46%	-5.85%	-17.55%
JO	Coffee	0.31%	-5.99%	1.98%

Currencies Performance

Ticker	Name	1 Day	1 Month	YTD
UUP	Long Dollar	0.03%	5.29%	19.66%
UDN	Short Dollar	-0.24%	-5.00%	-16.95%
FXE	Euro	-0.12%	-3.72%	-16.23%
FXB	British Pound Sterling	0.20%	-8.63%	-20.77%
FXF	Swiss Franc	0.09%	-2.67%	-8.85%
FXY	Japanese Yen	-0.09%	-5.10%	-20.79%
FXC	Canadian Dollar	0.05%	-4.96%	-8.02%
FXA	Australian Dollar	-0.31%	-6.62%	-11.66%

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